

## **REMARKS**

Claims 1-77 are pending in the present application. Claims 1-77 stand rejected. Claims 1, 4, 12, 13, 17, 29, 31, 37, 38, 43 and 50 have been amended herein. Reconsideration is respectfully requested in light of the following remarks. The following remarks are believed to be fully responsive to the outstanding Office Action and to render all claims at issue patentably distinct over the references cited.

The Examiner has rejected Claims 1, 2, 4, 6, 7, 9, 12, 13, 15, 20, 21, 50, 53 and 54 under 35 U.S.C. §103(a) as alleged being unpatentable over Speller, Jr. et al. (U.S. Patent No. 5,829,115) and IBEC (Body Assembly & Manufacturing, September 1994). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited reference.

Notwithstanding, independent Claim 1 has been amended to state that the electronic control unit automatically varies the riveting process in a real-time manner in response to output from at least the first and second sensors. Support for this amendment can be found within Applicants' originally filed specification at page 21, paragraph [0058], among others. In contrast, the IBEC reference does not disclose any automatic varying of the riveting process in a real-time manner in response to outputs from any sensed values and Speller, Jr. et al. does not teach automatic varying of the riveting process in response to output from at least first and second sensors sensing the claimed variables.

U.S. Patent Publication No. 2002/0166221 (Clew) provides additional evidentiary support that there is no suggestion or motivation to combine the cited hydraulically actuated riveting machines, such as IBEC, with the electric motor actuated

device of Speller, Jr. et al. to arrive at the presently claimed invention. The differences and incompatibility of these prior devices are significant. See, for example, Paragraph Nos. [0004], [0005] and [0012] of Clew, where the German Application No. EP 0893172, which is the priority basis for the present application, is compared to U.S. Patent No. 5, 752, 305 (Cotterill, et al.). It is also noteworthy that the assignee of Clew is the assignee of Cotterill, et al. and is the Henrob Company referenced in the IBEC publication. Furthermore, Clew is not prior art to the present application.

Independent Claim 12 has been amended to state that a fluid-free transmission is used. Support for this amendment can be found within Applicants' originally filed Figures 6 and 9, as well as the accompanying text. This amendment further highlights the incompatibility, and lack of suggestion and motivation to combine the hydraulic system of IBEC with the electric motor actuator of Speller, Jr. et al. Clew and the many secondary considerations provide ample evidence of nonobviousness of the presently claimed invention.

Furthermore, independent Claim 50 has been amended to state that a fluid-free transmission is used which is coupled to the electric motor during normal motor use. In contrast, Speller, Jr. et al. teaches that "a single actuator 80 can thus be provided for operation of all the tools 180, 182, 184, 186, and 188" such that a riveting transmission is not always coupled to the motor. See column 7, lines 23-25, and Figure 9 of Speller, Jr. et al. Radical reengineering would be required to combine the hydraulic drive of IBEC with the multi-tool system of Speller, Jr. et al., given the improper benefit of hindsight reasoning using the presently claimed invention as a template. Clew and the secondary considerations also teach away from this combination. The Examiner's

note alleging obvious matters of design choice with regard to the claimed stationary die being aligned with the punch in Claim 50 is respectfully challenged, as this claimed feature again highlights the extreme differences between Speller, Jr. et al. and the present invention.

The presently claimed combination of elements in all of the claims is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. See, *Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer, assignee's product manager Ralf England, and customer H. Konig of Audi. Additionally, a license with the Edison Welding Institute (hereinafter "the EWI License") for the present patent application is being filed herewith (portions of the EWI License have been redacted but the Examiner is requested to telephone the undersigned if the examiner wishes to verbally discuss the redacted portions); the Examiner's attention is directed to Sections 3.1 and 3.2 of the EWI License. These Declarations and the EWI License are clear that the commercial success and significance in the industry are

primarily based on the technical merit of the claimed invention. These Declarations and the EWI License must be given their proper objective and significant weight to defeat obviousness. See, *Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) (“secondary considerations must always . . . be considered”); see also, *Truswal Sys. Corp. v. Hydro-Air Eng’g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

None of the references cited by the Examiner disclose all of the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. “Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). See also, *In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); see also, *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner's incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. ('115) with the hydraulically actuated machine of the IBEC reference. To the contrary, the third party, Audi employee declaration of Konig states, in paragraph 6, that the electric motor driven, rotary-to-linear transmission, with sensor control "technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems." (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, Speller, Jr. et al. ('115), at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. See generally, Winner Int'l Royalty Corp. v. Wang, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), cert. denied, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the Speller, Jr. et al. ('115) patent and statement of the Audi employee. This is even more significant given that the Speller, Jr. et al. ('115) patent is primarily intended for use to upset a two sided rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

As further evidence of secondary considerations supporting nonobviousness, Ekdahl et al. (U.S. Patent No. 5,727,300) explains, throughout columns 1 and 2, that there is a long felt but unsolved need for real time rivet inspection,

that is being solved by the present invention. It is noteworthy that both the Ekdahl et al. and Speller, Jr. et al. patents pertain to the same aircraft riveting industry.

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring the Examiner to withdraw and overturn the instant rejection. The secondary considerations of commercial success, licensing, significance in the industry, long felt but unsolved need, and teaching away from by others require a finding of nonobviousness of the presently claimed invention.

The Examiner has made further factual errors with regard to the dependent claims. There is no teaching, suggestion or motivation by the cited references for the new and nonobvious combination of elements, especially when the additional elements of each of the dependent claims is considered. With all due respect, the Examiner is simply mistaken in his reading and application of the prior art. The suggestions for this combination are lacking and, moreover, the secondary considerations hereinafter weigh in favor of nonobviousness. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 3, 8, 14, 51 and 52 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. and IBEC in view of Gast (U.S. Patent No. 4,901,431). This rejection is respectfully traversed. All of the originally filed claims are believed to be patentably distinct over the cited references. Furthermore, there is no suggestion or motivation for combining the cited references, especially since

significant reengineering would be required to combine the hydraulic/pneumatic systems of IBEC and Gast with the screw drive system of Speller (which teaches away from such a combination (see column 1, lines 20-27 and column 2, lines 11-18, of Speller, and the background of Clew)). Notwithstanding, this rejection is deemed moot in light of the base independent claims. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 5 and 16 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. and IBEC in view of Zeldman et al. (U.S. Patent No. 3,878,734). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited references. The suggestions for this combination are lacking and, moreover, the significant secondary considerations and the teachings away by Clew weigh in favor of nonobviousness. Notwithstanding, this rejection is deemed moot in light of the base independent claims. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claim 10 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. and IBEC in view of Gerlach et al. (U.S. Patent No. 5,679,882). This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited references. In contrast, the cited references do not teach, suggest or motivate a second sensor acting as specified in dependent Claim 10 or its base Claim 1. There is no suggestion to make the combination alleged by the Examiner, especially in light of the significant secondary considerations and Clew discussed herein. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claim 11 has been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. and IBEC in view of Smart et al. (U.S. Patent No. 4,988,028). This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited references. In contrast, the cited references do not teach, suggest or motivate a second sensor acting as specified in dependent Claim 11 or its base Claim 1. There is no suggestion to make the combination alleged by the Examiner, especially in light of the significant secondary considerations and Clew discussed herein. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 22-30, 33, 34, 43, 44, 56, 57 and 59-61 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Cotterill et al. (U.S. Patent No. 5,752,305). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the references cited.

Notwithstanding, independent Claim 43 has been amended to state that the transmission is always coupled to the electric motor during normal motor actuation. Support for this amendment can be found in originally filed Figures 6 and 9 as well as the accompanying text. Speller, Jr. et al. teaches a radically different construction as discussed in its column 7, lines 23-25.

In contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 22-30, 33, 34, 43, 44, 56, 57 and 59-61 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together



elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability.” *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary considerations as presented in the Declarations under 37 C.F.R. §1.132 and the EWI License filed herewith. These Declarations and EWI License clearly note that the commercial success is primarily based on the technical merit of the claimed invention and that the claims of the present application are significant improvements in the industry. These Declarations must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) (“secondary considerations must always . . . be considered”); *see also, Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. “Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir.

1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner’s incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. (‘115) with the hydraulically actuated machine of the Cotterill et al. reference. To the contrary, the Audi third party, employee declaration of Konig states that in paragraph 6 that the “technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, *Speller, Jr. et al. (‘115)*, at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. *See generally, Winner Int’l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not

be desirable given the background of the Speller, Jr. et al. ('115) patent and statement of the Audi employee. This is even more significant given that the Speller, Jr. et al. ('115) patent is primarily intended for use to upset a rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

Moreover, it is significant that the electric motor disclosed in Speller, Jr. et al. ('115) upsets a conventional two-sided rivet on the anvil or die side of the machine. (See column 4, lines 4-10 of '115 patent). The Speller, Jr. et al. device is intended for use with a drill, a hole probe, a shave tool, a seal tool and a riveter in order to predrill a hole in the work piece, insert the rivet and upset the rivet. (See column 6, lines 50-54 and Figure 9 of '115 patent). This is significantly different than the self piercing rivet operation employed in the Cotterill et al. reference and as claimed at elements (e) and (f) in Claim 22, element (c) of Claim 34, and as element (c) of Claim 43. There is no suggestion or motivation to combine these very different types of fasteners.

As further evidence of secondary considerations supporting nonobviousness, Ekdahl et al. (U.S. Patent No. 5,727,300) explains, throughout columns 1 and 2, that there is a long felt but unsolved need for real time rivet inspection, that is being solved by the present invention. It is noteworthy that both the Ekdahl et al. and Speller, Jr. et al. patents pertain to the same aircraft riveting industry. Also, column 5, lines 12 and 13, of Ekdahl teaches drilling before the rivet is inserted, thereby teaching away from the presently claimed invention's use of self piercing rivets (for the applicable claims in the present application). The Clew patent, commonly assigned with Cotterill et al., also teaches away from this combination.

By way of further example, element (c) of Claim 34 includes setting the rivet “by the punch acting with a substantially relatively stationary die.” The movable anvil of Speller, Jr. et al. ‘115 teaches away from this feature. It is also noteworthy that neither Speller, Jr. et al. (‘115) or Cotterill et al. teach, suggest or motivate “a sensor operable to indicate power consumption of the electric motor” as is claimed in independent Claim 43 as part of element (d).

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring reversal of the instant rejection. The secondary considerations of commercial success, licensing, industry significance, long felt but unsolved need, and teaching away from by others, as demonstrated by the declarations, EWI License, and noted references further require a finding of nonobviousness of the presently claimed invention. Furthermore, the Examiner’s statement as to obvious design choices and inherency are respectfully challenged as lacking support, especially when viewed in combination with the other claim elements. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claims 31, 32, 35-42 and 45-47 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al., Cotterill et al. and Gast. This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited references.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 31, 32, 35, 42 and 45-47 is new and nonobvious. None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. The secondary considerations of commercial success, licensing, industry significance, long felt but unsolved need, and teaching away from by others, as demonstrated by the declarations, EWI License, and noted references further require a finding of nonobviousness of the presently claimed invention. Furthermore, the Examiner's statement as to design choice is respectfully challenged as lacking support, especially when considered with the combination of other claim elements. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claim 48 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of IBEC and Gast. This rejection is respectfully traversed. The originally filed claim is believed to be patentably distinct over the cited references.

In contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 48 is new and nonobvious. None of the references applied by the Examiner teach the offset motor and punch element claimed at (b). Furthermore, "virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an

approach would be an illogical and inappropriate process by which to determine patentability.” *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary considerations as presented in the Declarations and EWI License. These Declarations and the EWI License must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) (“secondary considerations must always . . . be considered”); *see also, Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. “Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must

identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also*, *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner’s incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. (‘115) with the hydraulically actuated machine of the IBEC reference and the pneumatically driven slide 54 of Gast. To the contrary, the third party, Audi employee declaration of Konig states that in paragraph 6 that the “technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, Speller, Jr. et al. (‘115), at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. *See generally*, *Winner Int’l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the Speller, Jr. et al. (‘115) patent and statement of the Audi employee. This is even more significant given that the Speller, Jr. et al. (‘115) patent is primarily intended for use to upset a rivet adjacent the anvil 50 and not

actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent). Clew also teaches away from making this combination.

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring reversal of the instant rejection. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 49 and 55 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al., IBEC, Gast and Cotterill et al. This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited references.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 49 and 55 is new and nonobvious. None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, and the secondary considerations have been ignored, thereby requiring reversal of the instant rejection. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

The Examiner has rejected Claim 58 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al., Cotterill et al. and the Affidavit of John Vrana.



This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited references.

First, the Affidavit of Vrana is defective since it does not say that it is based on personal knowledge or that it is factually correct subject to the penalty of perjury. See, 37 C.F.R. §1.68 and M.P.E.P. §715.04. Furthermore, all of the statements in section numbers 3-6 cannot be considered as "prior art" under 35 U.S.C. since there is no time reference disclosed in the Affidavit and since the Affidavit was allegedly signed in 2001, well after the priority filing date for the present application. Moreover, this Affidavit does not overcome the significant inability to combine the hydraulic drive of Cotterill et al. with the electric drive of Speller, Jr. et al., especially in view of the teaching away from such and secondary considerations previously discussed herein. Again, the Examiner appears to be improperly using hindsight reasoning in combining these disparate references given the benefit of the present invention as a template. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claim 62 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al., Cotterill et al., IBEC and Gast. This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct over the cited references. In contrast to the Examiner's incorrect hindsight assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. with the hydraulically actuated machines of Cotterill et al. and IBEC, and the pneumatically driven slide of Gast. Speller, Jr. et al., Clew and the Audi

declaration of Konig teach away from such a combination. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 63 and 71 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Cotterill and the Affidavit of Vrana. This rejection is respectfully traversed. The originally filed claims are patentably distinct over the cited references.

The Vrana Affidavit is defective as previously discussed. Furthermore, none of the references applied by the Examiner teach the offset motor and member element claimed in independent Claim 63. Moreover, none of the references applied by the Examiner teach the monitoring unit operably determining whether a portion of the rivet is flush with a workpiece surface as recited at (e) of independent Claim 71.

The presently claimed combination of elements in all of the claims is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. See, *Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer,

assignee's product manager Ralf England, and customer H. Konig of Audi. Additionally, a license with the Edison Welding Institute (hereinafter "the EWI License") for the present patent application is being filed herewith (portions of the EWI License have been redacted but the Examiner is requested to telephone the undersigned if the examiner wishes to verbally discuss the redacted portions); the Examiner's attention is directed to Sections 3.1 and 3.2 of the EWI License. These Declarations and the EWI License are clear that the commercial success and significance in the industry are primarily based on the technical merit of the claimed invention. These Declarations and the EWI License must be given their proper objective and significant weight to defeat obviousness. See, *Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) ("secondary considerations must always . . . be considered"); see also, *Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) ("secondary in time does not mean that it is secondary in importance").

None of the references cited by the Examiner disclose all of the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. "Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not "pick and choose among the individual elements of assorted prior art references to recreate the claimed invention." *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991).

*See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner’s incorrect hindsight assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. with the hydraulically actuated machine of Cotterill et al., and the pneumatically driven slide 54 of Gast. To the contrary, the third party, Audi employee declaration of Konig states, in paragraph 6, that the electric motor driven, rotary-to-linear transmission, with sensor control “technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, *Speller, Jr. et al.* (‘115), at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. *See generally, Winner Int’l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the *Speller, Jr. et al.* (‘115) patent and statement of the Audi employee. This is even more significant given that the *Speller, Jr. et al.*

('115) patent is primarily intended for use to upset a two sided rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

As further evidence of secondary considerations supporting nonobviousness, Ekdahl et al. (U.S. Patent No. 5,727,300) explains, throughout columns 1 and 2, that there is a long felt but unsolved need for real time rivet inspection, that is being solved by the present invention. It is noteworthy that both the Ekdahl et al. and Speller, Jr. et al. patents pertain to the same aircraft riveting industry.

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring the Examiner to withdraw and overturn the instant rejection. Speller, Jr. et al., Clew and the Audi declaration of Konig teach away from such a combination. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Finally, the Examiner has rejected Claims 64-70 and 71-77 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al., Cotterill et al., the Affidavit of Vrana and IBEC. This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct over the cited references.

The Vrana Affidavit is defective as previously discussed. The presently claimed combination of elements in all of the claims is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by

finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability.” *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. See, *Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

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hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

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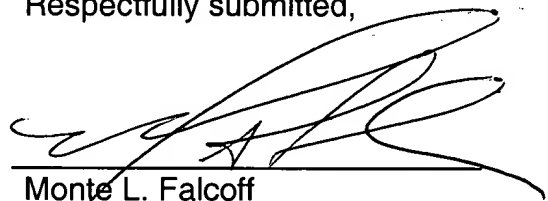


overturn the instant rejection. Speller, Jr. et al., Clew and the Audi declaration of Konig teach away from such a combination. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

In view of the instant amendments and remarks, it is submitted that the present application is in condition for allowance. Accordingly, it is requested that the Examiner pass the case to issue at his earliest convenience.

Respectfully submitted,

Dated: July 21, 2004

By:   
Monte L. Falcoff  
Reg. No. 37,617

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600